



Monthly Report for

12-Bit High Dynamic Range ADC

Reporting Period: 15 March 1998 to 15 April 1998

NRL Contract No. N00014-97-C-2033

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1.0 Technical Progress

During this reporting period, detailed layout of the ADC chip and final circuit simulations continued. The attached figure (Figure 1) shows a plot of the nearly completed chip layout. All cell and block layouts are now completed, including all first pass routing. Chip size remains at 4.9 mm x 4.5 mm. Critical blocks are currently being reviewed and re-simulated, and design/layout adjustments implemented as required.

2. Plans for Next Reporting Period

During the next reporting period, the detailed chip layout will be completed, and mask fabrication and wafer processing initiated.

An updated program schedule is shown in Figure 2. The ADC chip design/layout completion has slipped by about 1 month. In addition, the GaAs HBT fabrication line is now operating on an 18-week cycle time (original schedule was based on a 14-week cycle time). This is due to the recent implementation of procedure modifications designed to improve processing consistency and quality. The design slip and longer fabrication cycle time results in an overall slip of about 1.5 months before wafer testing can begin. This is now projected to start in September, 1998.

3. Financial Status

Table 1 shows the forecasted versus actual expenditures for the Phase 1 program. At month-end March, 1998 we are showing a deviation from forecast of \$17.4K (out of a cumulative actual of \$574K, or about 3%). This is due to a TRW accounting calendar change which moved an extra week into March. Taking into account the \$16.8K of actual costs for the extra week, the adjusted deviation from forecast is only \$0.6K.

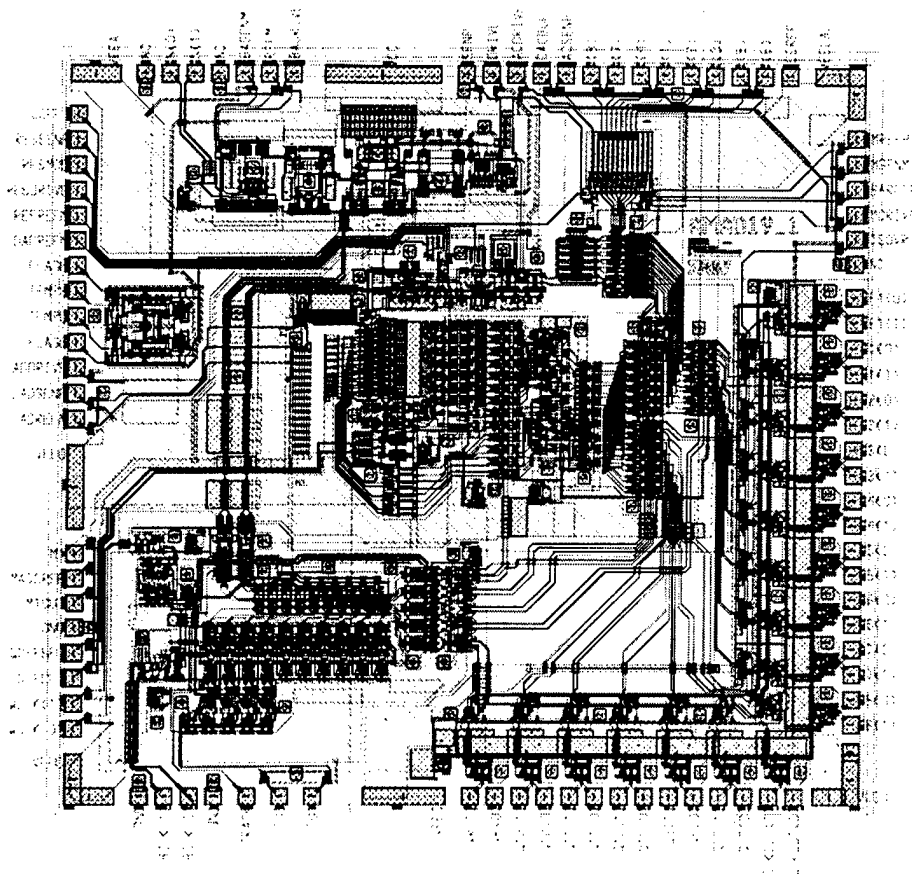


Figure 1. Plot of nearly completed ADC chip layout.

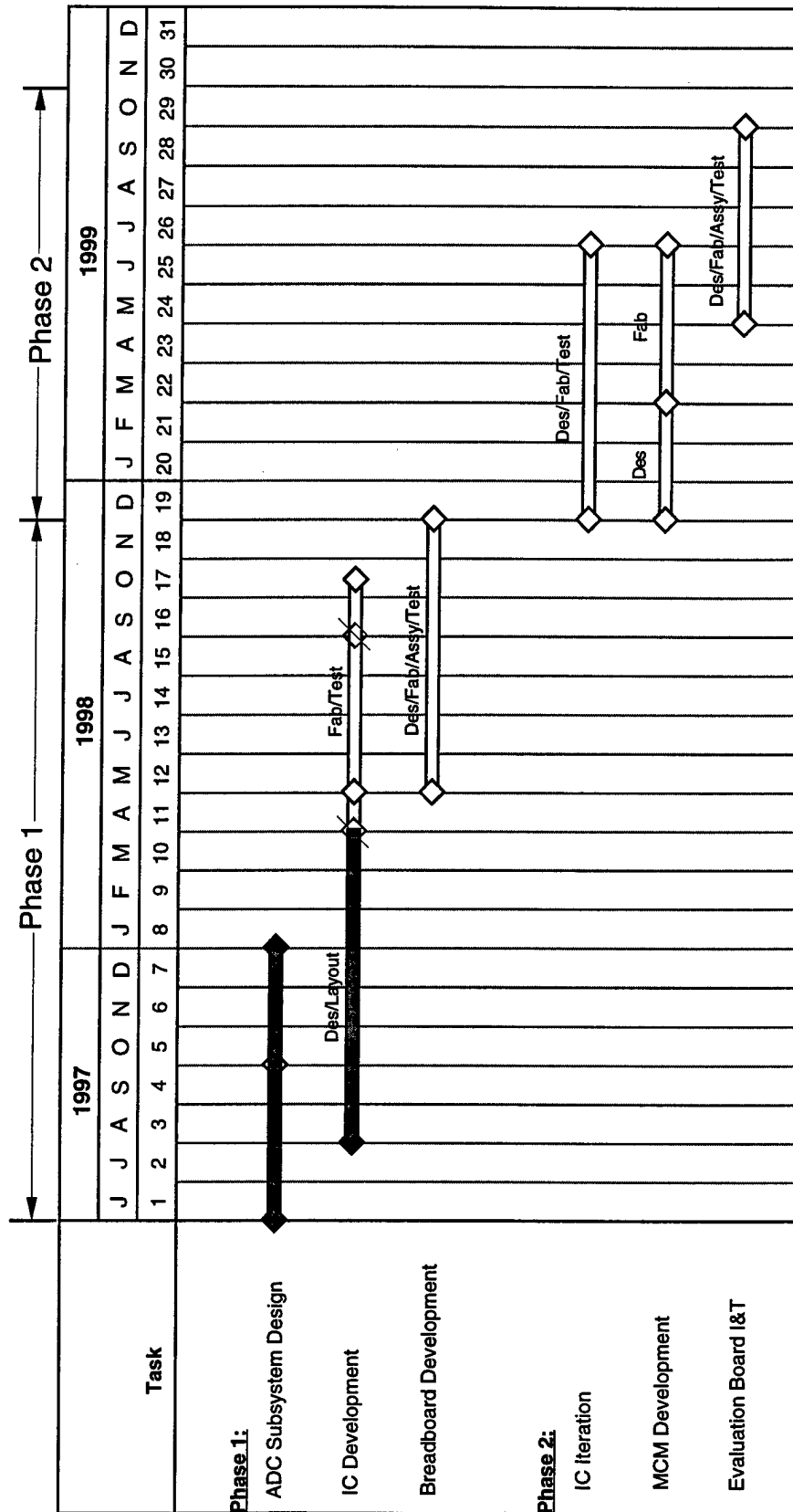


Figure 2. Updated Program Schedule.

Table 1. Program Expenditures Forecast

Month	Monthly Total (\$K)	Cumulative Total (\$K)	Cumulative Actuals (\$K)	Delta (Forecast - Actuals)
Jun-97	5.3	5.3	2.3	3.0
Jul-97	35.7	41.0	26.4	14.6
Aug-97	42.4	83.4	65.6	17.8
Sep-97	40.7	124.1	127.8	-3.7
Oct-97	81.1	205.2	203.6	1.6
Nov-97	58.4	263.6	268.1	-4.5
Dec-97	55.2	318.8	356.0	-37.2
Jan-98	89.1	407.9	434.9	-27.0
Feb-98	73.0	480.9	486.3	-5.4
Mar-98	75.7	556.6	574.0	-17.4
Apr-98	121.8	678.4		
May-98	64.6	743.0		
Jun-98	73.7	816.7		
Jul-98	103.4	920.1		
Aug-98	77.8	997.9		
Sep-98	64.9	1062.8		
Oct-98	72.2	1135.0		
Nov-98	54.0	1189.0		